

### **REMARKS**

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

The amendments to claims 1 and 6 are supported by the specification at page 5, line 25, which discloses a preferable lower range of 70 for the T<sub>g</sub>, and at page 11, line 21, which discloses a preferable upper average molecular weight of the polyol to be 250. These respective portions of the specification also support new claims 17-18 and new claims 19-20, which are also supported by the original claims. New claim 20, relating to a production process is further supported by specification at page 15, line 12 to page 17, line 22.

### **Claim Objections**

In the Office Action Summary of the outstanding Office Action, claims 9, 14 and 15 are objected to; however, no reason for the objection is stated in the remarks. Therefore, applicants have not addressed this objection in the present response.

### **Claim Rejections Under 35 USC 102(b)**

Firstly, the Examiner rejected claims 4-8, 10-12, and 16 as being anticipated by US 4,990,545, ("Hourai"). In order to distinguish the present invention over Hourai et al., the claims have been amended to recite the present invention is a "thermoset shape memory polymer composition." Applicants also submit that Hourai does not anticipate the present invention for the following reasons.

In the Office Action the Examiner stated that Abstract of Hourai, teaches a fiber reinforced shape memory polyurethane resin. However, the Abstract merely contains the words "article," "porous sheet," and "synthetic leather." Accordingly, Abstract fails to describe a fiber reinforced shape memory polyurethane resin.

The Examiner also stated that column 14, lines 4-5 and 9 of Hourai discloses the reinforcing fibers in an amount up to 40 percent by weight. However, this part of Hourai describes that a paint composition comprises 0 to 40 percent by weight of inorganic fillers,

which have a shape of fine powder, beads or hollow beads. See column 10, lines 15-19). Accordingly, this part fails to disclose any reinforcing fibers.

The Examiner stated that column 8, lines 6-45 and 50-51 of Hourai teach that the total polyol component may contain polypropylene glycol in an amount up to 85 percent by weight. However, these parts of Hourai also describe that in the case of thermosetting polyurethane, the total polyol component has to contain the particular aromatic and/or alicyclic polyol shown in formulae (1) to (3) in an amount of at least about 80 percent. Accordingly, Hourai, teaches away from the fact that the total polyol component contains polypropylene glycol in an amount of at least 50 percent in the case of thermoset polyurethane.

The Examiner also stated that column 11, lines 15-16 of Hourai describes that the ratio of NCO to OH is preferably 0.9-1.1:1. However, this disclosure relates to the preparation of thermoplastic polyurethane. In the case of the thermoset polyurethane, Hourai describes that the ratio of NCO to OH is preferably 0.9-1.3:1. See column 15, line 46 to column 16, line 21.

The Examiner also stated that column 2, lines 20-27, and column 16, line 63 to column 17, line 2 of Hourai teach that the polyurethane composition has a glass transition temperature between 40°C and 130°C. However, these parts of Hourai describe that a reshaped form of a thermoset article is locked by cooling the reshaped article down to lower than about 40°C, and then the reshaped form is reverted back to an original shape by heating the article to higher than about 40°C. It would be understood by a person skilled in the art that the thermoset article has a glass transition temperature of about 40°C. Moreover, amended claims 4 and 6 recite that the glass transition point is "70 to 150°C."

Accordingly, Hourai fails to teach or suggest all of the features of the present invention and cannot limit the claims.

**Conclusion**

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By  \_\_\_\_\_

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